

INFORMAȚII PERSONALE



Radu Silaghi-Dumitrescu

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Data nașterii 1974-10-26 | Naționalitate Română

EXPERIENȚĂ PROFESIONALĂ

1998–2000

Preparator universitar

Universitatea Babeș-Bolyai, Cluj-Napoca (România)
cercetare, predare laborator chimie organică

1999

Stagiu military obligatoriu, 6 luni (România)

2000–2007

Asistent universitar

Universitatea Babeș-Bolyai, Cluj-Napoca (România)
Cercetare, predare – biochimie, tehnologii enzimactice (laborator/seminar)

2000–2004

Doctorand (Teaching Assistant, Research Assistant)

University of Georgia, Athens, GA (United States)
Predare laborator chimie generală și chimie organică, cercetare

2004–2006

Senior Research Officer

University of Essex, Colchester (United Kingdom)
Cercetare, substitute de sânge

2007–2020

Conferențiar Universitar

Universitatea Babeș-Bolyai, Cluj-Napoca (România)
Predare chimie bioanorganică, materiale și procese bioorganice / chimie bioanorganică avansată, biochimie, biochimie avansată, biochimie aplicată, modelare moleculară, chimie computațională, enzimologie clinică și imunologie, metabolismul nutrienților, amprentare genetică; cercetare
Abilitare conducere doctorat, din 2013.
Cercetător Științific grad I din 2014

Președinte al Consiliului Științific al Universității Babeș-Bolyai, din 2012
Co-director al Institutului de Tehnologie al Universității Babeș-Bolyai, 2011-2015

Co-director al Centrului de Modelare Moleculară și Chimie Cuantică Computațională, din 2010

2020-prezent

Profesor Universitar

Universitatea Babeș-Bolyai, Cluj-Napoca (România)
Predare chimie bioanorganică, materiale și procese bioorganice / chimie bioanorganică avansată, biochimie avansată, biochimie aplicată, chimie computațională, enzimologie clinică și imunologie, cercetare
Director al Centrului pentru Strategie Universitară al UBB, din 2020

EDUCAȚIE

1993–1997

Licenta in Chimie

EQF level 6

Universitatea Babeș-Bolyai University, Facultate de Chimie și Inginerie Chimică, Cluj-Napoca (România)

Chimie, inclusiv modul didactic

1997–1998

Masterat in Chimie

EQF level 7

Universitatea Babeș-Bolyai University, Facultate de Chimie și Inginerie Chimică, Cluj-Napoca (România)

1999–2005	Chimie, organică și bioorganică Doctorat in chimie Universitatea Babeș-Bolyai, Facultate de Chimie și Inginerie Chimică, Cluj-Napoca (România)	EQF level 8
2000–2004	Chimie anorganică Doctorat in chimie Universitatea din Georgia, Athens (GA) Statele Unite ale Americii	EQF level 8
2001–2001	Chimie bioanorganică Summer Course in Crystallography American Crystallography Association, Athens, GA (USA) Cristalografie pentru molecule mici și proteine	

APTITUDINI PERSONALE

Limba maternă Română

Alte limbi

	Înțeles		Vorbit		Scris
	Ascultat	Citit	Interacțiune vorbită	Productie vorbită	
Engleza	C2	C2	C2	C2	C2
Franceza	B1	B1	B1	B1	B1

Aptitudini de comunicare

~20 ani de experiență didactică și de cercetare
>50 prezentări orale la conferințe științifice
>20 interviuri în mass-media, inclusiv în direct la TV și radio

Aptitudini organizatorice

Supervizat cercetare (licență, masterat, doctorat) pentru ~120 studenți, câștigat și condus granturi de cercetare.

Membru al Comisiei de Biochimie și Biologie Moleculară a CNCS (2011-2013) și respectiv CNATDCU (2011-2012), membru al Comisiei de Chimie a CNATDCU (2016-2020).

Președinte al Consiliului Științific al Universității "Babeș-Bolyai" (2012-).

Director al Centrului pentru Strategie Universitară al Universității "Babeș-Bolyai" (2020-).

Membru al Senatului Universității "Babeș-Bolyai" (2016-).

Editor, Acta Metallomica <http://chem.ubbcluj.ro/acta-metallomica/> (2014-2017).

Guest editor – Studia Universitatis Babeș Bolyai –Seria Chemia, Chemtracts – Inorganic Chemistry.

Reviewer Editorial Board al Frontiers in Molecular Medicine, 2013-2020.

Editor, Molecules (secțiunea Inorganic Chemistry) (2017-).

Delegatul național (reprezentantul) din partea României la Divizia de Chimie Computațională și Teoretică (Division of Computational and Theoretical Chemistry, DCTC) a European Chemical Society, EuChemS (2019-).

Organizat workshopuri/conferințe în modelare moleculară și în chimie bioanorganică, în calitate de co-președinte sau secretar al comitetelor.

Expert evaluator – proiect de evaluare a integrității academice în universități, organizat în proiect comun de Societatea Academică din România (SAR), alături de Alianța Națională a Organizațiilor Studentești din România (ANOSR) și Federația Studenților din Elveția (VSS-UNES-USU) co-finanțate printr-un grant din partea Elveției prin intermediul Contribuției Elvețiene pentru Uniunea Europeană extinsă (2016-2017).

Coordonator al Comisiilor de specialitate ale județului Cluj și președinte al organizației Cluj-Napoca în cadrul ALDE (2018).

Aptitudini profesionale

- Exprimare și purificare proteine (solubile, corpi de incluziune)
- Cristalografie de proteine

- Măsuratori de activitate enzimatică, cinetică enzimatică, inclusiv prin tehnici stopped-flow și freeze-quench
- Crio-enzimologie
- Determinarea și izolarea produșilor reacțiilor enzimatică; sinteză chimică și caracterizare structurală cu spectroscopii UV-viz, FTIR, RMN, (GC/LC)-MS, HPLC
- Bio-transformări preparative, folosind celule intacte sau preparate enzimatic purificate; dezvoltare de metodă
- Manipulare ADN – inclusiv clonare și mutageneză direcționată
- Cultură celule bacteriene, inclusiv experimente de stres oxidativ și nitrozativ
- Tehnici anaerobe pentru chimie și biochimie
- Întregistrare și interpretare de spectre UV-viz, de rezonanță electronică paramagnetică (REP/RES), de dicroism circular, vibraționale
- Preparare de probe (proteine) și interpretare (unde este aplicabil) pentru spectroscopii RES, Mössbauer, (VTVH)MCD, ENDOR, rezonanță Raman, RMN, (GC/LC)-MS
- Folosirea unor aparate precum spectrofotometre microplate, UV-viz, IR, senzori pentru măsurarea concentrațiilor dizolvate de gaze precum NO și O₂, FPLC, aparate de termociclare, electroforeză, camera anaerobe
- Calcule de structură electronică (ab initio, semiempiric, DFT, mecanică moleculară) și modelare de proteine (e.g., Gaussian, Spartan, Titan, Hyperchem, Cache, Sybyl, Insight), inclusiv aplicații UNIX și Linux
- Programe de procesare date – tip Word, spreadsheet, de prezentare științifică, de manipulare de structuri primare de proteine și ADN, reprezentări structuri chimice
- Conceput, scris și supervizat executarea de experimente didactice în biochimie și chimie bioanorganică

Aptitudini de calculator

Software uzual în Windows și Linux, software specializat pentru chimie – inclusiv modelare moleculară, spectroscopie sau cristalografie

INFORMATII SUPLIMENTARE

Publicații în reviste des specialitate ($h_{WoS}=31$, Times cited_{WoS}~2900):

279. Carrascoza, Francisco; Branzanic, Adrian M. V.; **Silaghi-Dumitrescu, Radu**. **The dynamics of hemerythrin and hemerythrin derivatives**. Studia Universitatis Babes-Bolyai Seria Chemia, 2021, 64(4), 397-404.
278. Dănescu, Theodor; **Silaghi-Dumitrescu, Radu**; Lupan, Alexandru; King R Bruce. **Cyclopentadienylmetal group 6 carbonyl derivatives with 2-propanoneoximato and related ligands**. New Journal of Chemistry, 2021, <https://doi.org/10.1039/D1NJ04379J>.
277. Suci, Ioana-Alexandra; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**. **Peroxo-transition metal systems: examples of redox isomerism in palladium structure**. Revue Roumaine de Chimie 2021, in press.
276. Mazilu (Moldovan), Amalia; Popescu, Violeta; Sarosi, Codruta; **Silaghi-Dumitrescu, Radu**; Chisnoiu, Andrea Maria; Moldovan, Marioara; Silaghi Dumitrescu, Laura; Prodan, Doina; Carpa, Rahela; Gheorghe, Georgiana Florentina; Chisnoiu, Radu Marcel. **Preparation and in vitro characterization of gels based on bromelain, whey and quince extract**. Gels, 2021, 7, 191. <https://doi.org/10.3390/gels7040191>.
275. Lehen, Maria; Plesa, Diana; Ionescu-Zinca, Stefania; Iancu, Stefania D.; Leopold, Nicolae; Makarov, Sergei V.; Branzanic, Adrian M.V.; **Silaghi-Dumitrescu, Radu**. **Adduct of aquacobalamin with hydrogen peroxide**. Inorganic Chemistry, 2021, 60(17), 12681-12684.
274. Irsai, Izabella; Branzanic, Adrian M. V.; **Silaghi-Dumitrescu, Radu**. **Poly(lactic acid) interactions with bioceramic surfaces**. Studia Universitatis Babes-Bolyai Seria Chemia, 2021, 66(3), 107-121.
273. Carrascoza, Francisco; **Silaghi-Dumitrescu, Radu**. **The dynamics of hemoglobin-haptoglobin complexes. Relevance for**

oxidative stress. Journal of Molecular Structure, 2022, 1250(1), 131703.

272. Cîrjeu, Victoria; Pușcaș, Cristina; **Silaghi-Dumitrescu, Radu.** Vincristine affects the redox reactivity of hemoglobin. Studia UBB Chemia, 2021, in press.

271. **Silaghi-Dumitrescu, Radu.** Measuring pseudoscience in online media: a case study on Romanian websites. Journal of Romanian Studies, 2021, in press.

270. Dereven'kov, Ilia A.; Makarov, Sergei V.; Branzanic, Adrian; **Silaghi-Dumitrescu, Radu;** Molodtsov, Pavel A.; Pokrovskaya, Elizaveta A.. **Formation of hydroxyl radical in aqueous solutions containing selenite and glutathione.** Polyhedron, 2021, 115072.

269. Radu, Luana; Attia, Amr A.; **Silaghi-Dumitrescu, Radu;** Lupan, Alexandru; King, R. Bruce. **Binuclear ethylenedithiolate iron carbonyls: a density functional theory study.** Inorganica Chimica Acta, 2021, 120260.

268. **Silaghi-Dumitrescu Radu.** Topics in National Anthems. Journal of Language and Literature, 2020, 20(2), 288-306, <http://dx.doi.org/10.24071/joll.v20i2.2541>.

267. **Silaghi-Dumitrescu Radu;** Gruian, Cristina; Puscas, Cristina; Simon, Alexandra; Fischer-Fodor, Eva; Toma, Vlad Al.; Farcas, Anca D.; Roman, Ioana; Scurtu, Florina; Attia, Amr A.A.; Damian, Grigore. **Spin labelled hemoglobin-based oxygen carriers (HBOC): preparation and evaluation of in vivo/in vitro stability.** Studia UBB Chemia, 2020, 65(2), 121-132.

266. Lehen, Maria; Fischer-Fodor, Eva; Scurtu, Florina; Hadade, Niculina; Mot, Augustin C.; Gal, Emese; Matei, Alina; **Silaghi-Dumitrescu Radu.** Excess ascorbate is a chemical stress agent against proteins and cells. Pharmaceuticals, 2020, 13(6): 107, doi.org/10.3390/ph13060107.

265. Farcas, Anca D.; Toma, Vlad Al.; Roman, Ioana; Sevastre, Bogdan; Scurtu, Florina; **Silaghi-Dumitrescu, Radu.** Glutaraldehyde-polymerized hemoglobin: in search of improved performance as oxygen carrier in hemorrhage models. Bioinorganic Chemistry and Applications, 2020, 1096573, doi.org/10.1155/2020/1096573.

264. Matei, Alina; Puscas, Cristina; Patrascu, Iulia; Lehen, Maria; Ziebro, Julia; Scurtu, Florina; Baia, Monica; Porumb, Dan; Totos, Robert; **Silaghi-Dumitrescu Radu.** On the stability of glutaraldehyde in biocide compositions. International Journal of Molecular Sciences, 2020, 21(9): 3372.

263. Carrascoza, Francisco; Surducu, Mihai; Eriksson, Leif; **Silaghi-Dumitrescu, Radu.** Interaction of cobalt and iron hydroperoxo bleomycin with deoxyribonucleic acid (DNA): dynamic vs. electronic structure considerations. Inorganica Chimica Acta, 2020, 119682.

262. Obasi, Titus Chukwuemeka; Benedec, Daniela; Hanganu, Daniela; Gheldiu, Anamaria; Vlase, Laurian; Oniga, Iliaora; Pușcaș, Cristina; **Silaghi-Dumitrescu, Radu;** Oprean, Radu. **Free radical scavenging activity and total polyphenol content of Securidaca longipedunculata roots and leaves extracts.** Farmacia, 2020, 68(1), 116-120.

261. Puscas, Cristina; Moldovan, Marioara; Silaghi-Dumitrescu, Laura; Ungureanu, Lavinia; **Silaghi-Dumitrescu Radu.** On the apparent redox reactivity of "oxygen-enriched water". Biological Trace Element Research, 2020, 198, 350–358. doi.org/10.1007/s12011-020-02056-4.

260. **Silaghi-Dumitrescu, Radu.** Redox reactivity in globins: modulation by covalent and non-covalent modifications with biomedical relevance. Journal of Experimental and Molecular Biology, 2019, XX(3), 1-2.

259. Attia, Amr A.; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu;** King, R. Bruce. **Neutral rhenadiboranes with Re(CO)₂(NO) vertices: a theoretical study of building blocks for rhenacarborane-based drug delivery agents.** Molecules, 2019, 25(1), E110.

258. Branzanic, Adrian; Ryde, Ulf; **Silaghi-Dumitrescu, Radu.** Importance of the iron–sulfur component and of the siroheme modification in the resting state of sulfite reductase. Journal of Inorganic Biochemistry, 2019, 110928.

257. Mot, Augustin C.; Coman, Cristina; Hadade, Niculina; Damian, Grigore; **Silaghi-Dumitrescu, Radu;** Heering, Hendrik A. **"Yellow" laccase from Sclerotinia sclerotiorum is a blue laccase that enhances its substrate affinity by forming a reversible tyrosyl-product adduct.** PLoS One, 2019, 0225530.

256. Branzanic, Adrian; Ryde, Ulf; **Silaghi-Dumitrescu, Radu.** Why does sulfite reductase employ siroheme? Chemical Communications, 2019, 55, 14047-14049.

255. Hanganu, Daniela; Olah, Neli-Kinga; Pop, Carmen; Vlase, Laurian; Oniga, Iliaora; Ciocarlan, Nina; Matei, Alina; Puscas, Cristina; **Silaghi-Dumitrescu, Radu;** Benedec, Daniela. **Evaluation of polyphenolic profile and antioxidant Activity for some Salvia species.** Farmacia, 2019, 67(5), 801-805. <https://doi.org/10.31925/farmacia.2019.5.8>

254. Hannibal, Luciana; Molodtsov, Pavel; Branzanic, Adrian; **Silaghi-Dumitrescu, Radu;** Makarov, Sergei. **Kinetic, spectroscopic and in silico characterization of the first step of the reaction between glutathione and selenite.** Inorganica Chimica Acta, 2020, 499, 119215.

253. Moldovan, Mirela L.; Iurian, Sonia; Puscas, Cristina; **Silaghi-Dumitrescu, Radu;** Hanganu, Daniela; Bogdan, Catalina; Vlase,

- Laurian; Oniga, Iliora; Benedec, Daniela. **A design of experiments strategy to enhance the recovery of polyphenolic compounds from *Vitis vinifera* by-products through heat reflux extraction.** *Biomolecules*, 2019, 9(10), 529; <https://doi.org/10.3390/biom9100529>.
252. Farcas, Anca Daniela; Mot, Augustin C.; Zagrean-Tuza, Cezara; Ticolea, Madalina; Sevastre, Bogdan; Kulak, Muhittin; **Silaghi-Dumitrescu Radu**, Parvu, Alina. **Remarkable rutin-rich *Hypericum capitatum* extract exhibits anti-inflammatory effects on turpentine oil-induced inflammation in rats.** *BMC Complementary and Alternative Medicine*, 2019, 19, 289.
251. Sacalis, Carmen; Morar, Cristina; Lameiras, Pedro; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**; Bende, Attila; Katona, Gabriel; Porumb, Dan; Harakat, Dominique; Gál, Emese; Darabantu, Mircea. **Design, synthesis and structure of novel dendritic G-2 melamines comprising piperidine motifs as key linkers and 4-(n-octyloxy)aniline as a peripheral unit.** *Tetrahedron*, 2019, 75, 130468, <https://doi.org/10.1016/j.tet.2019.130468>.
250. Radu, Luana; Attia, Amr A.; **Silaghi-Dumitrescu, Radu**; Lupan, Alexandru; King, R. Bruce. **The group 9 cyclopentadienylmetal cis ethylenedithiolates as metallodithiolene ligands in metal carbonyl chemistry: analogies to benzene metal carbonyl complexes.** *New Journal of Chemistry*, 2019, 43(32), 12711-12718.
249. Puscas, Cristina; Mircea, Alina; Raiu, Madalina; Mic, Mihaela; Attia, Amr A. A.; **Silaghi-Dumitrescu Radu**. **Affinity and effect of anticancer drugs on the redox reactivity of hemoglobin.** *Chemical Research in Toxicology*, 2019, 32(7), 1402-1411.
248. Mot, Augustin C.; Puscas, Cristina; Dorneanu, Sorin; **Silaghi-Dumitrescu Radu**. **Isolation, purification and characterization of ascorbate oxidase and peroxidase from *Cucurbita pepo medullosa*.** *Studia Universitatis Babes-Bolyai Seria Chemia*, 2019, 64(2), 49-60.
247. Scurtu, Florina; Tebrean, Bogdan; Árkosi, Mariann Kinga; Ionele, Adrian; **Silaghi-Dumitrescu, Radu**. **Hemoglobin-albumin co-polymers for blood substitutes: increasing the reproducibility of the polymerization reaction.** *Studia Universitatis Babes-Bolyai Seria Chemia*, 2019, 64(2), 421-434.
246. Mot, Augustin C.; Puscas, Cristina; Dorneanu, Sorin; **Silaghi-Dumitrescu Radu**. **EPR detection of sulfanyl radical during sulfhemoglobin formation—Influence of catalase.** *Free Radical Biology and Medicine*, 2019, 137, 110-115.
245. Radu, Luana; Attia, Amr A.; **Silaghi-Dumitrescu, Radu**; Lupan, Alexandru; King, R. Bruce. **Reversible complexation of ammonia by breaking a manganese-manganese bond in a manganese carbonyl ethylenedithiolate complex: a theoretical study of an unusual type of Lewis acid.** *Dalton Transactions*, 2019, 48, 324-332.
244. Turcas, Ramona; Kripli, Balázs; Attia, Amr A. A.; Lakk-Bogáth, Dóra; Speier, Gábor; Giorgi, Michel; **Silaghi-Dumitrescu, Radu**; Kaizer, József. **Catalytic and stoichiometric flavanone oxidation mediated by nonheme oxoiron (IV) complexes as flavone synthase mimics: kinetic, mechanistic and computational studies.** *Dalton Transactions*, 2018, 47, 14416-14420.
243. Puscas, Cristina; Radu, Luana; Carrascoza, Francisco; Mot, Augustin C.; Amariei, Diana; Lungu, Oana; Scurtu, Florina; Podea, Paula; Septelea, Raluca; Matei, Alina; Mic, Mihaela; Attia, Amr A.; **Silaghi-Dumitrescu Radu**. **The high affinity of small-molecule antioxidants for hemoglobin.** *Free Radical Biology and Medicine*, 2018, 124, 260-274.
242. Oniga, Iliora; Pușcaș, Cristina; **Silaghi-Dumitrescu, Radu**; Olah, Neli-Kinga; Sevastre, Bogdan; Marica, Raluca; Marcus, Ioan; Sevastre-Berghian, Alexandra; Benedec, Daniela; Pop, Carmen; Hanganu Daniela. ***Origanum vulgare* ssp. *vulgare*: Chemical Composition and Biological Studies.** *Molecules*, 2018, 23(8), 2077.
241. Mot, Augustin C.; Puscas, Cristina; Miclea, Patricia; Naumova-Letia, Galaba; Dorneanu, Sorin; Podar, Dorina; Dissmeyer, Nico; **Silaghi-Dumitrescu Radu**. **Redox control and autoxidation of class 1, 2 and 3 phytooglobins from *Arabidopsis thaliana*.** *Scientific Reports*, 2018, 8(1), 13714.
240. Joy, Syed RU; Eszter, Trufan; Smith, Mark D.; Puscas, Cristina; **Silaghi-Dumitrescu, Radu**; Semeniuc, Radu F. **An unexpected μ_4 -oxido-bridged tetranuclear Cu(II) inverse coordination complex of a heptadentate bis(pyrazolyl)methane-based ligand: Synthesis, structure, spectroscopic properties, and catecholase activity.** *Inorganica Chimica Acta*, 2018, 485, 190-199.
239. Benedec, Daniela; Oniga, Iliora; Hanganu, Daniela; Gheldiu, Ana Maria; Pușcaș, Cristina; **Silaghi-Dumitrescu, Radu**; Duma, Mihaela; Tiperciuc, Brîndușa; Vârban, Rodica; Vlase, Laurian. **Sources for developing new medicinal products: biochemical investigations on alcoholic extracts obtained from aerial parts of some Romanian *Amaryllidaceae* species.** *BMC Complementary and Alternative Medicine*, 2018, 18(1), 226.
238. Kostadinovic Velickovska, Sanja; Naumova Letia, Galaba; Cocevskaja, Maja; Bruhl, Ludger; **Silaghi-Dumitrescu, Radu**; Mirhosseini, Hamed; Ilieva, Fidanka; Mihajlov, Ljupco; Dimovska, Violeta; Kovacevic, Biljana; Gulaboski, Rubin; Matthaus, Bertrand. **Effect of bioactive compounds on antiradical and antimicrobial activity of extracts and cold-pressed edible oils from nutty fruits from Macedonia.** *Journal of Food Measurement and Characterization*, 2018, 12, 1-8. 10.1007/s11694-018-9871-8
237. Farcas, Anca Daniela; Mot, Augustin C.; Zagrean-Tuza, Cezara; Toma, Vlad; Cimpoiu, Claudia; Hosu, Anamaria; Parvu, Marcel; Roman, Ioana; **Silaghi-Dumitrescu, Radu**. **Chemo-mapping and biochemical-modulatory and antioxidant/prooxidant effect of *Galium verum* extract during acute restraint stress in female rats.** *PLoS One*, 2018, 13(7), e0200022.
236. Surducian, Mihai; Branzanici, Adrian; **Silaghi-Dumitrescu, Radu**. **Heme Fe-SO²⁻ intermediates in sulfite reduction: contrasts with Fe-OO²⁻ species from oxygen-oxygen bond activating systems.** *International Journal of Quantum Chemistry*, 2018, 118(19), e25697.
235. Hathazi, Denisa; Scurtu, Florina; Bischin, Cristina; Mot, Augustin; Attia, Amr A. A.; Kongsted, Jacob; **Silaghi-Dumitrescu,**

Radu. The reaction of oxy hemoglobin with nitrite: mechanism, antioxidant-modulated effect, and implications for blood substitute evaluation. *Molecules*, 2018, 23(2), E350. doi: 10.3390/molecules23020350.

234. Kostadinovic Velickovska, Sanja; Mot, Augustin C.; Mitrev, Sasa; Gulabovski, Rubin; Bruhl, Ludger; Mirhosseini, Hamed; **Silaghi-Dumitrescu, Radu; Matthaus, Bertrand. Bioactive compounds and “in vitro” antioxidant activity of some traditional and non-traditional cold-pressed edible oils from Macedonia.** *Journal of Food Science and Technology*, 2018, 55(5), 1614–1623.

233. **Silaghi-Dumitrescu, Radu; Tomoiogă, Nicoleta; Jurco, Eugen. Variability in biochemical composition of milk among three representative breeds of dairy cows from Romania.** *Studia Universitatis Babes-Bolyai Seria Chemia*, 2018, LXIII, 55-62.

232. Irsai, Izabella; Lupan, Alexandru; Majdik, Cornelia; **Silaghi-Dumitrescu, Radu. Computational investigation of spectroscopic parameters in putative secondary structure elements for polylactic acid and comparison with experiment.** *Studia Universitatis Babes-Bolyai Seria Chemia*, 2017, LXII(4), 495-513.

231. Bischin, Cristina; Contra, Gabriela; Tusan, Camelia; Miclea, Patricia; Taciuc, Vicentiu; Parvu, Marcel; **Silaghi-Dumitrescu, Radu. Free-radical reactions: the fine line between the anti- and pro-oxidant reactivities.** *Oxidation Communications*, 2018, 41(1), 130–140.

230. **Silaghi-Dumitrescu, Radu. “Compulsory prison for all”: an ironically-proposed rite of passage in a post-communist country.** *Journal of Media Critiques* 2017, 12(3), 51-58.

229. Attia, Amr A. A.; **Silaghi-Dumitrescu, Radu. Nickel-substituted iron dependent cysteine dioxygenase: implications for the dioxygenation activity of nickel model compounds.** *International Journal of Quantum Chemistry*, 2018, 118(13), e25564.

228. Scurtu, Florina; Popa, Anamaria; **Silaghi-Dumitrescu, Radu. Periodate-oxidized alginate as polycondensation reagent for hemoglobin.** *Studia Universitatis Babes-Bolyai Seria Chemia*, 2017, LXII(4), 59-66.

227. Mot, Augustin; C.; Bischin, Cristina; Damian, Grigore; Attia, Amr A.A.; Gal, Emese; Dina, Nicoleta E.; Leopold, Nicolae; **Silaghi-Dumitrescu, Radu. Fe(III) – sulfide interaction in globins: characterization and quest for a putative Fe(IV)-sulfide species.** *Journal of Inorganic Biochemistry*, 2018, 179, 32-39.

226. **Silaghi-Dumitrescu, Radu. Feudalism in Modern Eastern Europe.** *Balkanistic Forum*, 2018, (1), 11-15.

225. Toma, Vlad Al.; Farcas, Anca D.; Roman, Ioana; Sevastre, Bogdan; Hathazi, Denisa; Scurtu, Florina; Damian, Grigore; **Silaghi-Dumitrescu, Radu. In vivo evaluation of hemerythrin-based oxygen carriers: similarities with hemoglobin-based counterparts.** *International Journal of Biological Macromolecules* 2017, 107, 1422-1427.

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3. **Radu Silaghi-Dumitrescu.** **Considerations on public perceptions within Romanian public discourse.** Lambert Academic Publishing, 2017, Saarbrücken, 49 pp. ISBN 978-3-330-03040-4.
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Prezentări la conferințe, seminarii:

68. Linkage isomerism in bioinorganic chemistry

12th European Conference on Computational and Theoretical Chemistry, Perugia, Italy, Septembrie 2019

67. Redox reactivity in globins: modulation by covalent and non-covalent modifications with biomedical relevance

Annual International Conference of the Romanian Society of Biochemistry and Molecular Biology, Iasi, Romania, Septembrie 2019

66. Linkage isomerism in bioinorganic chemistry

Molecular modeling in chemistry and biochemistry MOLMOD 2018, Cluj-Napoca, Octombrie 2018

65. Antioxidant and prooxidant reactivity in natural compounds: mechanisms, interactions with (metallo)proteins, and practical applications

35th CONFERENCE OF THE ROMANIAN CHEMICAL SOCIETY, Octombrie 2018, Calimanesti-Caciulata, Romania

64. Substitute de sânge: cât de artificiali putem fi?

Atelierul De Filosofie Si Antropologie Medicală, 2016, Cluj-Napoca, Romania

63. Fără număr: traficearea informației și democrația biochimică

Atelierul De Filosofie Si Antropologie Medicală, 2015, Cluj-Napoca, Romania

62. Hemoglobin versus hemerythrin - based blood substitutes

Bio-Nano-Math-Chem 2017, iunie 2017, Cluj-Napoca, Romania

61. Evaluarea academică: între numerologie și substanță

EDUCAȚIA ȘI CERCETAREA ROMÂNEASCĂ - Starea prezentă și perspectiva, Martie 2017, Bucharest, Romania

60. Metal-induced protein and DNA radical chemistry: the cases of bleomycin and haptoglobin

XXI CONFERENCE OF THE SERBIAN CRYSTALLOGRAPHIC SOCIETY, Iunie 2017, Vrsac, Serbia

59. Hemoglobin versus hemerythrin - based blood substitutes: data from top-up and hemorrhagic shock models

Nanomateriale și dispozitive inovative cu aplicații biomedicale – symposium, Noiembrie 2016, Cluj-Napoca, Romania

58. Sulfite reductase and nitrite reductase chemistry: similarities in linkage and redox isomerism

34th CONFERENCE OF THE ROMANIAN CHEMICAL SOCIETY, octombrie 2016, Calimanesti-Caciulata, Romania

57. Hemoglobin versus hemerythrin - based blood substitutes: data from top-up and hemorrhagic shock models

7th International Conference "Biomaterials, Tissue Engineering & Medical Devices" BIOMMEDD'2016, Constanta, Septembrie 2016

56. Shedding Blood Over Magnets – invited lecture

9th International Physics Conference of the Balkan Physical Union – BPU9 , 24-27 August 2015 , Istanbul University, Istanbul , Turkey

55. Hemoglobin/hemerythrin based oxygen carriers – invited lecture

Molecular Biology – Current Aspects and Prospects, Cluj-Napoca, Noiembrie 2015

54. Probing supramolecular interactions in oxygen-carrying proteins

Nanoscience in Chemistry, Physics, Biology and Mathematics, Cluj-Napoca, 2015

53. Manifestul de la Leiden: un simptom și un îndeemn – invited lecture

Conferința Națională "Acces la literatură științifică: Rolul structurilor informaționale pentru dezvoltarea cunoașterii, inovare și sisteme de inovare" – Ediția a III-a – 29-31 Octombrie 2015, Timișoara, România

52. (Per)oxidation cascades induced by globins and related proteins: towards analytical tools of possible use for antiparasitic drugs

COST Action CM1307 Meeting Belgrade, Serbia, Octombrie 2015

51. (Per)oxidation cascades induced by metallo proteins: analytical uses, mechanistic insights

COST Action CM1201 Meeting Lodz, Poland, Septembrie 2015

50. High-valent reactivity in superoxide reductase, bleomycin and porphyrazines: similarities and differences

Metal Elements in Environment, Medicine and Biology, 11th edn., Cluj-Napoca, România, 2011

49. Something old, something new, something borrowed, something blue: some bonding considerations based on DFT results

Molecular modeling in chemistry and biochemistry MOLMOD 2011, Cluj-Napoca, November 2011

48. Modeling transition-metal biological centers

Molecular modeling in chemistry and biochemistry MOLMOD 2011, Cluj-Napoca, November 2011

47. Substitute de sânge: stadiul actual – invited lecture

Filiala Timișoara a Academiei Române, ianuarie 2015

46. Hemoglobin/hemerythrin-based oxygen carriers (HBOC): radical view, conservative solutions

33rd CONFERENCE OF THE ROMANIAN CHEMICAL SOCIETY, 2014, Calimanesti-Caciulata, România

45. Exploring unusual ligands at biological metal centers: from molecular nitrogen to peroxochlorate

Molecular modeling in chemistry and biochemistry MOLMOD 2014, Cluj-Napoca, November 2014

44. ***

Serile Fundatiei Miscarea Populara, Cluj-Napoca 2013

43. Lead, follow, or get out of the way

Serile de leadership, Cluj-Napoca, Fundatia Leaders România, 2014

42. Hemoglobin/hemerythrin-based blood substitutes (HBOC)

YES (Young European Scientists) Meeting, University of Porto, Septembrie 2014, invited lecture

41. Shallow potential surfaces in small molecule activation by biological metal centers: from multiple reactivity to supramolecular association

Summer School on Supramolecular Chemistry, University of Belgrade, August 2014, invited lecture

40. I remember when oxygen used to be safe – accounts of a tormented oxygen molecule

Oxygen-binding and Sensing Proteins Conference (O2BiP), 6-10 Iunie 2014, Sheffield, UK, invited lecture

39. ***

Fostering Innovation at Cluj Napoca, USAMV Cluj-Napoca, Martie 2014

38. Developing the artificial blood

Healthcare, Education And Research Talks, Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, 2014

37. Regele Soare, vile Moldovei și sângele artificial: creatie sau simple consecinte?

TEDx Iasi, 2014, invited lecture

36. Aplicații ale tehnicilor stopped-flow și RES asupra unor specii chimice cu durată de viață limitată

Zilele Academice Clujene, Cluj-Napoca 2014

35. Activation of oxides and oxyanions of halides and sulfur at biologically-relevant iron centers

European Colloquium on Inorganic Reaction Mechanisms, Debrecen, Iunie 2014

34. Weak interactions dictating secondary and tertiary structure in proteins

1st Symposium on Weak Molecular Interactions, Martie 2013, Pecs, Hungary

33. Shedding blood over magnets. Since 1456TM

COST Action CM1201 / 1st Meeting, Bologna, Italy, Mai 2013

32. Fast reactions of nitrite with globins: linkage isomerism and redox processes

European Colloquium on Inorganic Reaction Mechanisms, Debrecen, Iunie 2013

31. Biological metal centers and supramolecular interactions: some methodology considerations

Summer School on Supramolecular Chemistry, University of Belgrade, August 2013, invited lecture

30. Hai sa te ReFaci

TEDxCluj, Noiembrie 2013, invited lecture

29. Biocatalysis

SOE ("Stability Pact for South-Eastern Europe, sponsored by Germany") Workshop „From Molecules to Functionalised Materials“, Octombrie 2013, Cluj-Napoca, România

28. O-X (X=O, N, S, halide) bond activation catalysed by transition metal centers: suicidal vs. productive pathways

COST Action CM1201 / 1st WG1 Meeting, Newcastle upon Tyne, UK, Octombrie 2013

27. Shedding blood over magnets: some applications on unusual valence states in biological metal centers
EUCMOS 31, August 2012, Cluj-Napoca, România – invited lecture

26. The silk, the spin, and the tunnel to China
Advanced Structure-Property Correlation, the Gate for Special Properties at Molecular and Nano Level. Bucharest, România, Septembrie 2012

25. Biological high-valent metal states: electromerism within them, and en route to their formation
EUROBIC 11 – European Congress on Biological Inorganic Chemistry, Granada, Spain, 2012

24. Molecular modeling of supramolecular interactions in protein structure
32nd CONFERENCE OF THE ROMANIAN CHEMICAL SOCIETY, 2012, Calimanesti-Caciulata, România

23. Molecular modeling of supramolecular interactions in protein structure
XIX CONFERENCE OF THE SERBIAN CRYSTALLOGRAPHIC SOCIETY, 2012, Bela Crkva, Serbia

22. Molecular modeling of supramolecular interactions in protein structure
BiomMedD 2012 – 5th Conference on biomaterials, tissue engineering and biomedical devices, 2012, Constanta, România

21. Superoxide reductase: a debated mechanism, comparison with superoxide dismutases
Metal Elements in Environment, Medicine and Biology 2010, Timisoara, România

20. Walking the plank in small molecule activation by metalloenzymes and related centers
Molecular modeling in chemistry and biochemistry MOLMOD 2010, Cluj-Napoca, Mai 2010

19. Unusual metal oxidation states in metalloproteins and related complexes: from degenerate orbitals to blood substitutes
7th International Conference of the Chemical Societies of the South-Eastern European Countries – Bucharest, Septembrie 2010

18. Walking the plank in small molecule activation by metalloenzymes and related centers
Humboldt Conference on non-covalent interactions, Vrsac, Serbia, 2009

17. Fe(I) and Fe(0) states in biologically-relevant systems
Molecular modeling in chemistry and biochemistry MOLMOD 2009, Cluj-Napoca, Mai 2009

16. Fe(I) states in biologically-relevant systems
The 30th National Chemistry Conference, Calimanesti-Caciulata, România, Octombrie 2008

15. Bioinorganic spectroscopy
SOE Workshop “From Molecules to Functionalised Materials” – Cluj-Napoca, Octombrie 2009

14. The redox reactivity of globins: the chicken and egg paradox
Metal Elements in Environment, Medicine and Biology, 8th edn., Timisoara, România, 2008

13. Unusual metal oxidation states in metalloproteins and related complexes: from degenerate orbitals to apoptosis
Metal Elements in Environment, Medicine and Biology, 9th edn., Cluj-Napoca, România, 2009

12. Sang et orbitales
Le Cinquième Colloque Franco – Roumain De Chimie Appliquée (COFrRoCA), Bacau, România, 2008

11. The Sarajevo train: stress and unusual valence
Exploratory workshop in Chemistry with the Scientific Romanian Diaspora, Bucharest, România, 2008

10. The reactivity of myoglobin towards sulfoxylate
The Fifth International Conference on Porphyrins and Phthalocyanines (ICPP5), Moscow, 2008

9. Drawing blood over computational arguments: the ferryl case
From Molecular Informatics to Bioinformatics – an International Symposium, Budapest, Hungary, 2008

8. Nitrite linkage isomerism in hemoproteins and related complexes: experimental and theoretical evidence
37th Inorganic Reaction Mechanisms Group Meeting, 37IRMG, Barcelona, Spain, 2008

7. Nitrite linkage isomerism in hemoproteins and related complexes: experimental and theoretical evidence
Molecular and supramolecular chemistry of multimetallic systems, Bucharest, România, 2007

6. Artificial blood: how and why do we make it?
Workshop in Material Science and Engineering, Cluj-Napoca, România, 2007

5. Nitrite linkage isomerism in hemoproteins and related complexes – a case for mechanistic promiscuity
From Molecular Informatics to Bioinformatics – an International Symposium, Budapest, Hungary, 2007

4. Nitrite linkage isomerism in hemoproteins and related complexes: experimental and theoretical evidence

Molecular Modelling in Chemistry and Biochemistry – MolMod, Arcalia, România, 2007

3. Ferryl heme protonation gates reactivity in hemoproteins

The 29th National Chemistry Conference, Calimanesti-Caciulata, România, Octombrie 2006

2. Transient species involved in catalytic dioxygen/peroxide activation by hemoproteins: possible involvement of protonated Compound I species

Dalton Discussions 8, Metals: Centers of Biological Activity, Nottingham, UK, 2005

1. Ferryl heme protonation gates reactivity in hemoproteins

Young Researchers Forum, 8th European Biological Chemistry Conference, EUROBIC 8, Aveiro, Portugal, 2006

Experiența acumulată (inclusiv managerială) în programe/proiecte naționale/internaționale de cercetare finanțate de foruri de specialitate:

1. Izomeria nitro/nitrito in metalocomplecsi cu relevanta biocatalitica, CEEX-ET Director 2006-2008, 120000 RON
2. Bacterial Proteins Containing Novel Iron Sites, NIH, SUA membru 2000-2004, 1000000 USD
3. Genomics and Blood Substitutes for 21st Century Europe, European Union 6th Framework Programme, Marea Britanie membru 2004-2007, 1000000 EUR
4. Metalloprotein-based blood substitutes – PNII Idei Director 2007-2010, 1000000 RON
5. Superoxid dismutaze si superoxid reductase – Academia Romana Director 2007-2008, 5000 RON
6. Centru de modelare moleculara si chimie cuantica computationala - PNII Capacitati Partener 2007-2010, 1000000 RON
7. Metalocomplecsi cu relevanta biologica ai azotitului - Rusia + Acad. Romana Co-director 2008-2009, 5000 RON
8. Reactivi si intermediari organometalici in sinteze stereocontrolate cu derivati de relevanta biologica - CEEX membru 2006-2008, 500000 RON
9. Aplicatiile bio-medicale ale compusilor metalelor – metallomics – PCCE Director partener 2010-2013, 700000 RON
10. Nanomanipularea biomoleculelor cu ajutorul microscopiei de forta atomica PCCE Director partener 2010-2013, 700000 RON
11. Activarea redox a moleculelor mici de catre centri metalici cu relevanta biologica – PCE Director 2013-2016, 1000000 RON
12. Molecular Modeling in Chemistry and Biochemistry –conferinte internationale Director 2011, 5000 RON
13. Noi generatii de biomateriale pentru stomatologia cosmetica – PCCA ("Parteneriate") membru 2012-2015, 2000000 RON
14. Biomateriale compozite bazate pe noi sisteme de monomeri fluorurati armati cu nano si micro umpluturi bioactive cu proprietati anticariogenice remanente si adeziune superioara la tesuturile dure dentare – PCCA Director 2008-2011, 2000000 RON
15. Noi biomateriale avansate, inteligente de tip giomer cu diverse aplicatii in stomatology - PCCA membru 2012-2015, 2000000 RON
16. Biomateriale complexe cu grad avansat de specificitate utilizate in tratamentele endodontice - PCCA membru 2008-2011, 2000000 RON
17. Elaborarea strategiei nationale in domeniul cercetarii, dezvoltarii tehnologice si inovarii pentru perioada 2014-2020, -membru - 2013-2014
18. CNFIS-FDI-2017- 0539 „Sustținerea complexă a internaționalizării la Universitatea Babeș-Bolyai” – 2017 – director proiect, 400000 RON
19. Reprezentant România, COST Action CM1201 - Biomimetic Radical Chemistry, European Cooperation in Science and Technology
20. Reprezentant România, COST Action CM1307 - Targeted chemotherapy towards diseases caused by endoparasites, European Cooperation in Science and Technology

Premii:

Premiul anual Costin D. Nenițescu al Academiei Române, 2013

Alte premii profesionale:

Premiul de excelență pentru dezvoltarea instituțională la Universitatea Babeș-Bolyai, 2018

Premiul de excelență pentru dezvoltarea instituțională la Universitatea Babeș-Bolyai, 2016

Premiul pentru cercetare științifică la Universitatea Babeș-Bolyai, 2014

Premiul cercetării științifice la Universitatea Babeș-Bolyai, 2010

Alte premii sau mențiuni:

Nominalizare în top 100 evaluatori la nivel internațional pentru domeniul chimie în clasamentul Sentinels of Science al Publons, 2016
(<https://publons.com/community/sentinels-of-science-recipient-2016/>)

Candidatură la alegeri locale (consiliu local Florești – Cluj), parlamentare, europarlamentare (2016-2019)

“Senior al cetății”, Cluj-Napoca 2014

Trofeu VIP – Oamenii schimbării, București 2014

“Onoare pentru Cluj” – premiu anual pentru cercetare al Prefecturii Cluj, 2013

Premiu anual pentru cercetare din partea asociației “Pro Familia”, 2013

Trofeu “Prețuiește Viața” - TVR1, București, 2013

Trofeu “Ce se întâmplă doctore”, București 2013

1st prize, 2004 Procter & Gamble Poster Competition (University of Georgia, 2004)

Honorable mention, 2003 Procter & Gamble Poster Competition (University of Georgia, 2003)

Premii și mențiuni la Olimpiade școlare fază județeană și națională, și alte concursuri, diverse discipline (chimie, istorie, matematică, etc) –1988-1992